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### Janssen Contributes to Open Source Book

Lydia Marcus  
*Dordt University*

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# JANSSEN CONTRIBUTES TO OPEN SOURCE BOOK

**R**ings with Inquiry, written by Dordt University Associate Professor of Mathematics Dr. Mike Janssen and Dr. Melissa Lindsey, is an open source textbook that teaches students concepts through inquiry-based learning. As an open source textbook, *Rings with Inquiry* is free in both an HTML and PDF version and the source code used to create these two versions is also freely available.

"The book is licensed under a Creative Commons license, so anyone is free to modify the source code to better suit their needs, while still crediting the original authors," explains Janssen.

He hopes this format will make the textbook more accessible and engaging to college students, many of whom will eventually teach high school algebra.

Open source textbooks allow instructors to modify a book based on their insight into teaching abstract algebra and, as they do so, benefit the community of algebra learners and teachers. "They can synergize their teaching and scholarship," says Janssen. This interactive format fosters the development of online communities in a way that commercial textbooks do not.

*Rings with Inquiry* engages students through inquiry-based learning. "The idea is that the students ask questions and solve problems and make sense of the ideas for themselves," says Janssen. "This means the book is written in a carefully sequenced way, so that each new idea builds on previously introduced ideas, and really challenging problems are broken up and scaffolded so that their solutions are attainable by the students."

In 2018 and 2019, previous versions of the textbook were piloted at Dordt and at Morningside College in Sioux City. After incorporating feedback from students and instructors, the authors posted an edited version in the spring

of 2020. Janssen is currently using the textbook in his Abstract Algebra 1 class.

"As you might imagine, a course called 'Abstract Algebra' can sound pretty intimidating," says Janssen. "But my hope is that the inquiry-oriented approach we take, starting from mathematical objects familiar to students and slowly building layers of abstraction on that firm foundation, combined with the open approach of the text and its source code, will make

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— Dr. Mike Janssen, mathematics professor

this beautiful, abstract corner of creation accessible to all."

"I have a deep appreciation for the inquiry-based structure of the textbook, although it took some time for me to adjust to this approach," says Caden Zonnefeld, a mathematics, statistics, and data science major who is taking the class. After acclimating to the inquiry-based approach, Zonnefeld says he feels it has helped him develop a deeper understanding of abstract algebra.

Computer Science and Mathematics major Elizabeth Wilterdink appreciates the portability and availability of open-source textbooks. About the inquiry-based approach, she says, "I feel like I understand a theorem much better after I have gone through the work to prove it myself."

LYDIA MARCUS ('17)

Dr. Mike Janssen



## CAMPUS KUDOS

Dordt is holding a one-year pilot program where first-year and transfer applicants will not need to submit standardized test scores when applying to Dordt. "By going test optional this year, students have more flexibility, and we can alleviate some of the stress students might experience during the application process," says Greg Van Dyke, director of admissions. For more information, see [dordt.edu/news/58112](http://dordt.edu/news/58112).



More than 118 people participated in the Defender Dash 5K in October, which raised \$5,400 for the David Temte Memorial Scholarship. Runners and walkers participated from all over Defender Nation, including Michigan, California, Minnesota, Washington, Illinois, and Iowa.

Nathan Endemano, an assistant football coach earning a master's degree at Dordt with a focus on sport leadership, partnered with the City of Sioux Center to **update the design of the disc golf course**, located in Children's Park. An avid disc golfer, he completed the design as part of his practicum requirement focused on a facility improvement.



Dordt's engineering department was recognized nationally for its outstanding student chapter of the American Society of Civil Engineers. Dordt received honorable mention for being in the top third of student chapters.